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Basin Outlook Reports

and

Federal - State - Private

Cooperative Snow Surveys

For more water supply and resource management information, contact:

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How forecasts are made

Most of the annual streamflow in the Western United States originates as snowfall that has accumulated high in the mountains during winter and early spring. As the snowpack accumulates, hydrologists estimate the runoff that will occur when it melts. Predictions are based on careful measurements of snow water equivalent at selected Index points. Precipitation, temperature, soil moisture and antecedent streamflow data are combined with snowpack data to prepare runoff forecasts. Streamflow forecasts are coordinated by Soil Conservation Service and National Weather Service hydrologists. This report presents a comprehensive picture of water supply conditions for areas dependent upon surface runoff. It includes selected streamflow forecasts, summarized snowpack and precipitation data, reservoir storage data, and narratives describing current conditions.

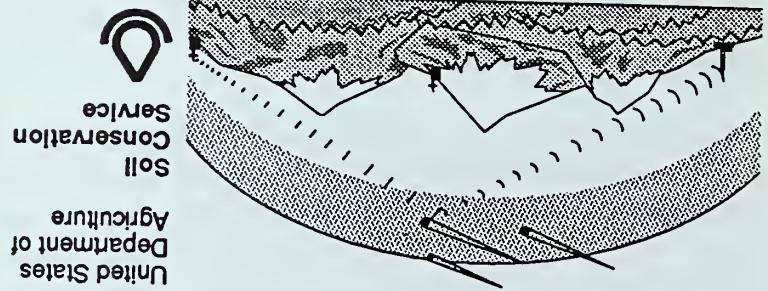
Snowpack data are obtained by using a combination of manual and automated SNOTEL measurement methods. Manual readings of snow depth and water equivalent are taken at locations called snow courses on a monthly or semi-monthly schedule during the winter. In addition, snow water equivalent, precipitation and temperature are monitored on a daily basis and transmitted via meteor burst telemetry to central data collection facilities. Both monthly and daily data are used to project snowmelt runoff.

Forecast uncertainty originates from two sources: (1) uncertainty of future hydrologic and climatic conditions, and (2) error in the forecasting procedure. To express the uncertainty in the most probable forecast, four additional forecasts are provided. The actual streamflow can be expected to exceed the most probable forecast 50% of the time. Similarly, the actual streamflow volume can be expected to exceed the 90% forecast volume 90% of the time. The same is true for the 70%, 30%, and 10% forecasts. Generally, the 90% and 70% forecasts reflect drier than normal hydrologic and climatic conditions; the 30% and 10% forecasts reflect wetter than normal conditions. As the forecast season progresses, a greater portion of the future hydrologic and climatic uncertainty will become known and the additional forecasts will move closer to the most probable forecast.

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Basin Outlook Reports

In addition to basin outlook reports, a Water Supply Forecast for the Western United States is published by the Soil Conservation Service and National Weather Service monthly, January through May. Reports may be obtained from the Soil Conservation Service, West National Technical Center, 511 Northwest Broadway, Room 248, Portland, OR 97209-3489.

Issued by

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Interpreting Streamflow Forecasts

Introduction

Each month, five forecasts are issued for each forecast point and each forecast period. Unless otherwise specified, all streamflow forecasts are for streamflow volumes that would occur naturally without any upstream influences. Water users need to know what the different forecasts represent if they are to use the information correctly when making operational decisions. The following is an explanation of each of the forecasts.

Most Probable (50 Percent Chance of Exceeding) Forecast. This forecast is the best estimate of streamflow volume that can be produced given current conditions and based on the outcome of similar past situations. There is a 50 percent chance that the streamflow volume will exceed this forecast value. There is a 50 percent chance that the streamflow volume will be less than this forecast value.

The most probable forecast will rarely be exactly right, due to errors resulting from future weather conditions and the forecast equation itself. This does not mean that users should not use the most probable forecast; it means that they need to evaluate existing circumstances and determine the amount of risk they are willing to take by accepting this forecast value.

To Decrease the Chance of Having Too Little Water

If users want to make sure there is enough water available for their operations, they might determine that a 50 percent chance of the streamflow volume being lower than the most probable forecast is too much risk to take. To reduce the risk of not having enough water available during the forecast period, users can base their operational decisions on one of the forecasts with a greater chance of being exceeded (or possibly some point in-between). These include:

70 Percent Chance of Exceeding Forecast. There is a 70 percent chance that the streamflow volume will exceed this forecast value. There is a 30 percent chance the streamflow volume will be less than this forecast value.

90 Percent Chance of Exceeding Forecast. There is a 90 percent chance that the streamflow volume will exceed this forecast value. There is a 10 percent chance the streamflow volume will be less than this forecast value.

To Decrease the Chance of Having Too Much Water

If users want to make sure they don't have too much water, they might determine that a 50 percent chance of the streamflow being higher than the most probable forecast is too much of a risk to take. To reduce the risk of having too much water available during the forecast period, users can base their operational decisions on one of the forecasts with a smaller chance of being exceeded. These include:

30 Percent Chance of Exceeding Forecast. There is a 30 percent chance that the streamflow volume will exceed this forecast value. There is a 70 percent chance the streamflow volume will be less than this forecast value.

10 Percent Chance of Exceeding Forecast. There is a 10 percent chance that the streamflow volume will exceed this forecast value. There is a 90 percent chance the streamflow volume will be less than this forecast value.

Using the forecasts—an example

Using the Most Probable Forecast. Using the example forecasts shown below, users can reasonably expect 36,000 acre-feet to flow past the gaging station on the Mary's River near Deeth between March 1 and July 31.

Using the Higher Exceedance Forecasts. If users anticipate a somewhat drier trend in the future (monthly and seasonal weather outlooks are available from the National Weather Service every two weeks), or if they are operating at a level where an unexpected shortage of water could cause problems, they might want to plan on receiving only 20,000 acre-feet (from the 70 percent chance of exceeding forecast). In seven out of ten years with similar conditions, streamflow volumes will exceed the 20,000 acre-foot forecast.

If users anticipate extremely dry conditions for the remainder of the season, or if they determine the risk of using the 70 percent chance of exceeding forecast is too great, then they might plan on receiving only 5000 acre-feet (from the 90 percent chance of exceeding forecast). Nine out of ten years with similar conditions, streamflow volumes will exceed the 5000 acre-foot forecast.

Using the Lower Exceedance Forecasts. If users expect wetter future conditions, or if the chance that five out of every ten years with similar conditions would produce streamflow volumes greater than 36,000 acre-feet was more than they would like to risk, they might plan on receiving 52,000 acre-feet (from the 30 percent chance of exceeding forecast) to minimize potential flooding problems. Three out of ten years with similar conditions, streamflows will exceed the 52,000 acre-foot forecast.

In years when users expect extremely wet conditions for the remainder of the season and the threat of severe flooding and downstream damage exists, they might choose to use the 76,000 acre-foot (10 percent chance of exceeding) forecast for their water management operations. Streamflow volumes will exceed this level only one year out of ten.

UPPER HUMBOLDT RIVER BASIN									
STREAMFLOW FORECASTS									
FORECAST POINT	FORECAST PERIOD	<---- DRIER ----- FUTURE CONDITIONS ----- WETTER ---->							
		----- Chance of Exceeding -----							
		90%	70%	50% (Most Probable)	30%	10%	25 YR.	(%) AVG.	(1000AF)
MARY'S RIVER nr Deeth	MAR-JUL	5.0	20.0	36	77	52	76	47	(1000AF)
	APR-JUL	8.0	17.0	31	74	45	67	42	(1000AF)
LAMOILLE CREEK nr Lamoille	MAR-JUL	6.0	16.0	24	79	32	43	31	(1000AF)
	APR-JUL	4.0	15.0	22	75	30	41	30	(1000AF)
NF HUMBOLDT RIVER at Devils Gate	MAR-JUL	6.0	12.0	43	73	74	121	59	(1000AF)

For more information concerning streamflow forecasting ask your local SCS field office for a copy of "A Field Office Guide for Interpreting Steamflow Forecasts".

WASHINGTON WATER SUPPLY OUTLOOK

JANUARY 1992

GENERAL OUTLOOK:

WASHINGTON WATER SUPPLY OUTLOOK REPORT CURRENT AS OF 1/10/92
THE SNOWPACK VARIES FROM 80% IN THE GREEN RIVER BASIN TO 125% IN THE CHELAN BASIN. WASHINGTON'S SNOTEL SITES ARE AVERAGING 84% OF NORMAL SNOWPACK ON JANUARY 1 (BY JANUARY 10, THE STATEWIDE AVERAGE WAS 81%). DECEMBER PRECIPITATION WAS 61% OF NORMAL STATE WIDE, AND VARIED FROM 84% OF AVERAGE IN THE NORTH PUGET BASIN TO 37% IN THE OKANOGAN - METHOW BASIN. YEAR-TO-DATE PRECIPITATION VARIES FROM 131% IN THE WALLA WALLA TO 64% IN THE COLVILLE - PEND OREILLE BASINS. DECEMBER TEMPERATURES WERE ABOVE NORMAL AND VARIED FROM 2 DEGREES ABOVE IN THE WALLA WALLA BASIN TO 6 DEGREES ABOVE IN THE OKANOGAN BASIN. JANUARY 1 RESERVOIR STORAGE IS GENERALLY GOOD THROUGHOUT THE STATE, WITH RESERVOIRS IN THE YAKIMA BASIN AT 87% OF AVERAGE AND 47% OF CAPACITY. FORECASTS FOR 1992 RUNOFF VARY FROM 113% OF AVERAGE FOR THE AHTANUM CREEK TO 74% ON MILL CREEK IN THE WALLA WALLA BASIN. DECEMBER STREAMFLOWS VARIED FROM 113% OF NORMAL ON THE YAKIMA RIVER AT CLE ELEM TO 56% ON THE SPOKANE RIVER.

SNOWPACK:

The snowpack started out in November with near normal accumulations in all areas of the state. December started off with good snowfalls then stopped snowing the last ten days. Snowpack varies over the state from 125% of normal in the Chelan Basin to 74% for Ahtanum Creek in the Yakima Basin. Snowpack along the west slopes of the Cascade Mountains includes the Green with 80%, and the Skagit 123%. Snowpack in the Okanogan is at 90%, and the Spokane at 103%. SNOTEL sites in Washington have a snowpack 84% of average for JANUARY 1, state wide. Maximum snow cover is at Paradise on Mount Rainier, with a water content of 29.2 inches. This site would normally have 28.9 inches of water content on January 1.

PRECIPITATION:

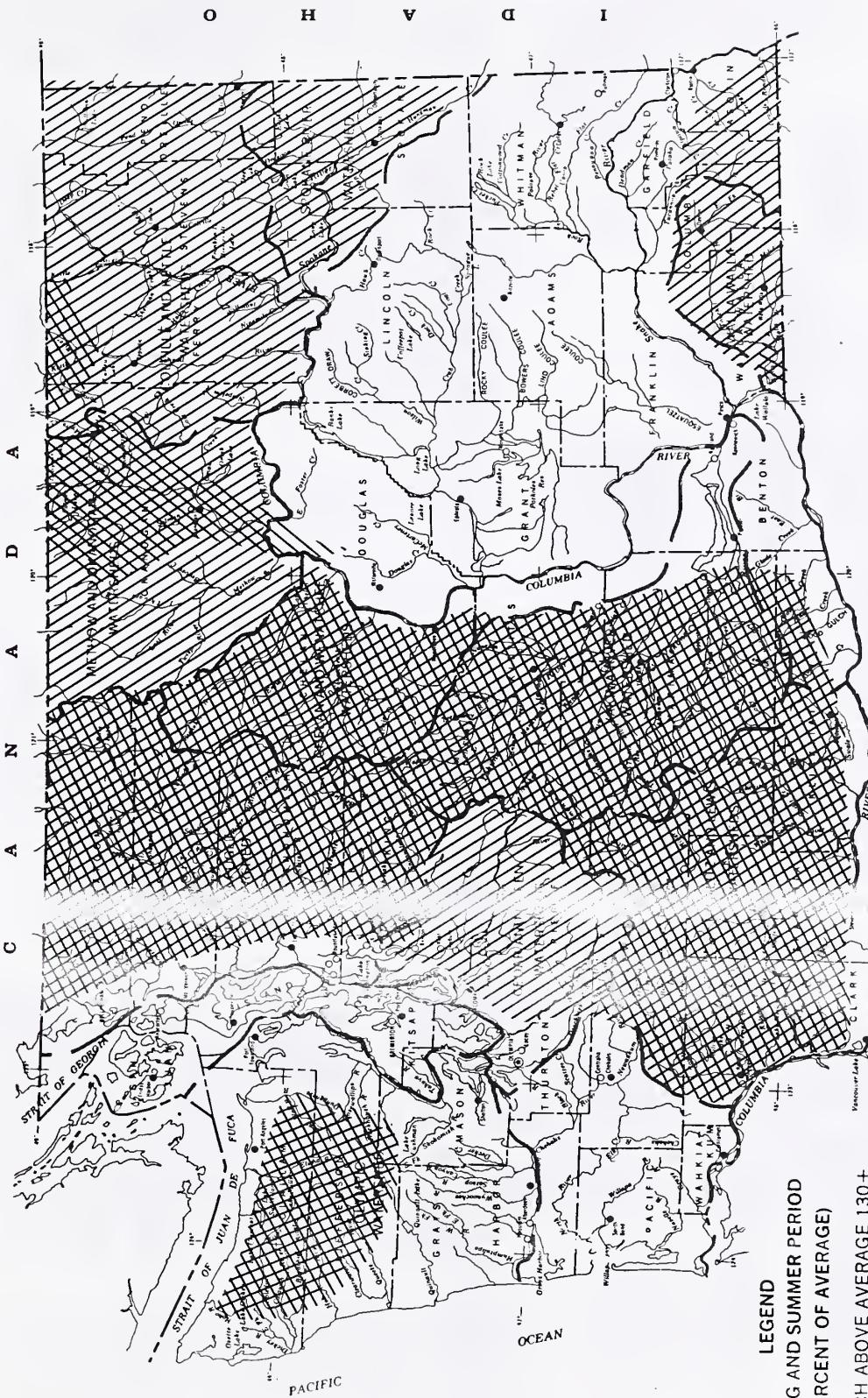
December precipitation from National Weather Service stations was 61% of average statewide. The year-to-date precipitation statewide is 86% and varied from 131% of normal in the Walla Walla Basin to 64% in the Colville-Pend Oreille Basin. December precipitation varied from 80% of average in the North Puget Basin, to 37% in the Okanogan Basin. SNOTEL sites in Washington showed high elevation year-to-date precipitation values to be 83%. Maximum year-to-date precipitation was at the June Lake SNOTEL site near Mt. St. Helens, with 49.8 inches since October 1, 1991; normal for this site would be 65.5 inches.

RESERVOIR:

Reservoir storage in Washington is generally good for January 1. Reservoir storage in the Yakima Basin was 505,400 acre feet, 87% of normal. Storage at other reservoirs include Roosevelt at 102% of average, and the Okanogan reservoirs at 113% of January 1 normal. The power generation reservoirs contain the following: Coeur d'Alene Lake, 74,400 acre feet, or 36% of normal; Chelan Lake, 324,100 acre feet, 86% of average and 48% of capacity, and Ross Lake at 148% of average, and 83% of capacity.

STREAMFLOW:

December streamflows were generally below average in Washington, however the Similkameen River and the Yakima River at Cle Elum were the highest in the state, at 100% and 113%. Other streamflows were the following percent of normal: the Cowlitz River, 89%; the Walla Walla River, 95%; the Spokane River, 56%; the Columbia at the Canadian border, 84%. The Wenatchee River at 87% and the Methow with 78%. The Okanogan River was 85%. Forecasts for summer streamflow are for below to near average and vary from 113% of average for the Ahtanum Creek to 74% of normal on Mill Creek in the Walla Walla River Basin. January forecasts for some west side streams include: Cedar River, 85%; Skagit River, 96%; and the Dungeness River, 95%. Some east side streams include the Yakima River at Parker, 84%; the Wenatchee River at Peshastin, 100%; and the Spokane River, 85%.



JANUARY 1992 STREAMFLOW PROSPECTS WASHINGTON

0 25 50 75 100 Mi
0 50 100 150 KM

SOURCE: Data compiled by SCS
Field Personnel.

JANUARY 1986 4 R 39641
BASE 4 R 39260

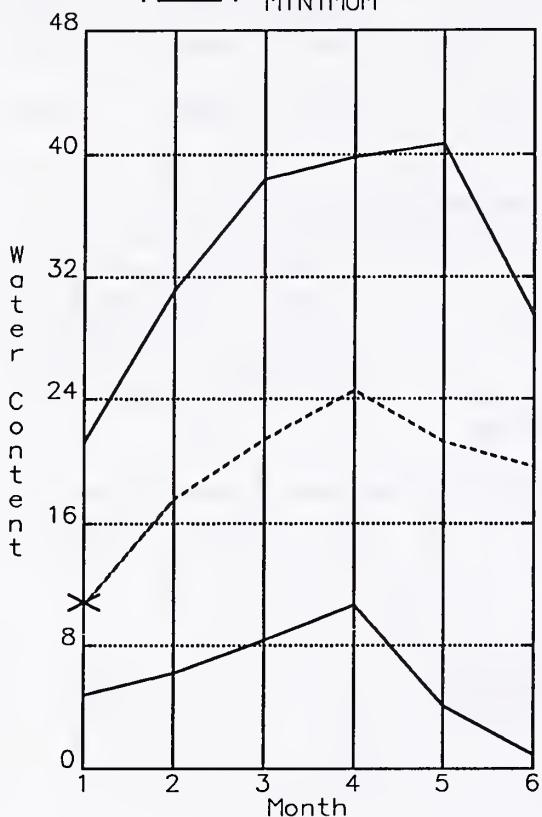
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S N O W C O U R S E D A T A

JANUARY 1992

SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90	SNOW COURSE	ELEVATION	DATE	SNOW DEPTH	WATER CONTENT	LAST YEAR	AVERAGE 1961-90
<hr/>													
PEND OREILLE RIVER							YAKIMA RIVER						
BENTON MEADOW	2370	12/30/91	2	.5	1.3	2.7	ANTAHUM R.S.	3100	1/02/92	9	2.0	1.3	3.5
BENTON SPRING	4920	12/30/91	22	7.0	5.5	8.0	BLEWETT PASS#2 PILLOW	4270	1/01/92	---	5.7S	6.4	8.3
BUNCHGRASS MEADOWS	5000	1/01/92	---	13.0E	14.5	14.8	BUMPING LAKE	3450	12/27/91	8	2.5	3.0	6.0
BUNCHGRASS MDW PILLOW	5000	1/01/92	---	12.4	14.7	11.5	BUMPING LAKE (NEW)	3400	12/27/91	11	3.6	3.6	7.5
HEART LAKE TRAIL	4800	1/01/92	---	8.8E	12.9	--	BUMPING RIDGE PILLOW	4600	1/01/92	---	8.2S	8.6	9.6
HOODOO BASIN	6050	1/01/92	---	21.5E	31.9	20.4	CORRAL PASS PILLOW	6000	1/01/92	---	15.3S	16.2	13.5
HOODOO CREEK	5900	1/01/92	---	18.3E	26.9	18.0	FISH LAKE PILLOW	3370	12/27/91	42	13.4	12.0	10.7
NELSON CAN.	3100	12/27/91	24	6.8	7.2	7.2	FISH LAKE PILLOW	3370	1/01/92	---	12.6S	13.4	12.4
KETTLE RIVER							GROUSE CAMP PILLOW	5380	1/01/92	---	9.3S	5.0	8.9
BARNES CREEK CAN.	5300	12/27/91	30	9.8	14.3	8.7	LAKE CLE ELUM	2200	12/28/91	3	.7	3.1	3.9
BIG WHITE MTN CAN.	5510	12/30/91	28	8.3	10.9	7.2	MORSE LAKE PILLOW	5400	1/01/92	---	20.4S	17.3	19.1
FARRON CAN.	4000	1/02/92	25	5.7	5.3	9.9	OLALLIE MDWS PILLOW	3960	1/01/92	---	16.0S	20.1	20.3
MONASHEE PASS CAN.	4500	12/27/91	22	6.7	9.4	6.2	SASSE RIDGE PILLOW	4200	1/01/92	---	14.5S	10.3	12.4
SPOKANE RIVER							STAMPEDE PASS PILLOW	3860	1/01/92	---	17.1S	18.5	16.7
FOURTH OF JULY SUM	3200	1/02/92	5	2.0	3.0	3.4	TUNNEL AVENUE	2450	12/29/91	8	2.2	6.3	8.1
LOST LAKE	6110	1/01/92	---	27.9E	33.7	23.6	WHITE PASS ES PILLOW	4500	1/01/92	---	8.2S	9.1	9.8
MOSQUITO RIDGE	5200	1/01/92	---	16.5E	17.2	16.3	ANTAHUM CREEK						
MOSQUITO PILLOW	5200	1/01/92	---	15.7	16.4	15.7	ANTAHUM R.S.	3100	1/02/92	9	2.0	1.3	3.5
SUNSET	5540	1/01/92	---	12.9E	16.4	--	GREEN LAKE PILLOW	6000	1/01/92	---	7.3S	7.5	9.0
SUNSET PILLOW	5540	1/01/92	---	16.8	20.9	15.8	MILL CREEK						
NEWMAN LAKE							HIGH RIDGE PILLOW	4980	1/01/92	---	10.9S	6.9	9.7
QUARTZ PEAK PILLOW	4700	1/01/92	---	5.8	7.1	8.5	TOUCHET #2 PILLOW	5530	1/02/92	---	14.2S	--	17.2
RAGGED RIDGE	3330	1/01/92	4	.5	--	3.8	LEWIS - COWLITZ RIVERS						
OKANOGAN RIVER							JUNE LAKE PILLOW	3200	1/01/92	---	3.7S	20.1	11.5
BRENDA MINE CAN.	4800	12/27/91	18	4.9	6.6	6.5	LONE PINE PILLOW	3800	1/01/92	---	8.3S	10.9	12.0
ENDERBY CAN.	6200	12/30/91	45	13.3	29.0	18.6	PARADISE PARK PILLOW	5500	1/01/92	---	29.3S	33.1	23.6
GREYBACK RES CAN.	5120	12/30/91	17	3.8	7.0	3.1	PIGTAIL PEAK PILLOW	5900	1/01/92	---	19.2S	28.6	20.1
HAMILTON HILL CAN.	4890	12/31/91	22	5.8	12.3	8.4	POTATO HILL PILLOW	4500	1/01/92	---	8.4S	9.5	10.5
HARTS PASS PILLOW	6500	1/01/92	---	22.2S	41.6	17.9	SHEEP CANYON PILLOW	4050	1/01/92	---	9.9S	19.0	15.2
MCCULLOCH CAN.	4200	12/31/91	14	3.0	4.6	3.2	SPENCER MDW PILLOW	3400	1/01/92	---	5.0S	9.4	9.4
MISSION CREEK CAN.	5800	1/03/92	28	8.6	13.4	8.9	SURPRISE LKS PILLOW	4250	1/01/92	---	16.0S	18.6	20.2
MONASHEE PASS CAN.	4500	12/27/91	22	6.7	9.4	6.2	WHITE PASS ES PILLOW	4500	1/01/92	---	8.2S	9.1	9.8
MT. KOGAU CAN.	5900	12/28/91	19	4.4	3.8	6.3	WHITE RIVER						
SALMON MDWS PILLOW	4500	1/01/92	---	4.1S	3.3	3.9	CORRAL PASS PILLOW	6000	12/31/91	52	17.3	18.7	--
SILVER STAR MTN CAN.	6000	12/28/91	35	11.4	18.1	13.4	CORRAL PASS PILLOW	6000	1/01/92	---	15.3S	16.2	13.5
WHITE ROCKS MTN CAN.	6000	12/30/91	28	8.5	9.6	11.6	MORSE LAKE PILLOW	5400	1/01/92	---	20.4S	17.3	19.1
METHOW RIVER							GREEN RIVER						
HARTS PASS PILLOW	6500	1/01/92	---	22.2S	41.6	17.9	COUGAR MTN. PILLOW	3200	1/01/92	---	4.8S	10.4	8.3
SALMON MDWS PILLOW	4500	1/01/92	---	4.1S	3.3	3.9	GRASS MOUNTAIN #2	2900	12/31/91	0	.0	4.0	4.8
CHELAN LAKE BASIN							LESTER CREEK	3100	12/31/91	18	5.2	7.8	8.0
LYMAN LAKE PILLOW	5900	1/01/92	---	28.8S	52.1	25.4	LYNN LAKE	4000	12/31/91	24	8.8	10.8	7.6
MINERS RIDGE PILLOW	6200	1/01/92	---	7.9S	43.9	--	SAW MILL RIDGE	4700	12/31/91	32	9.3	13.0	13.3
PARK CK RIDGE PILLOW	4600	1/01/92	---	23.9S	28.4	18.4	STAMPEDE PASS PILLOW	3860	1/01/92	---	17.1S	18.5	16.7
RAINY PASS PILLOW	4780	1/01/92	---	21.3S	28.9	15.4	TWIN CAMP	4100	12/31/91	32	9.8	9.8	10.0
ENTIAT RIVER							SNOWQUALMIE RIVER						
POPE RIDGE PILLOW	3540	1/01/92	---	9.7S	7.5	9.1	OLALLIE MDWS PILLOW	3960	1/01/92	---	16.0S	20.1	20.3
WENATCHEE RIVER							SKYKOMISH RIVER						
BERNE-MILL CREEK (d)	3170	12/30/91	32	9.1	--	11.2	STAMPEDE PASS PILLOW	3860	1/01/92	---	17.1S	18.5	16.7
BLEWETT PASS#2 PILLOW	4270	1/01/92	---	5.7S	6.4	8.3	STEVENS PASS PILLOW	4070	1/01/92	---	20.6S	20.9	15.3
CHIWAKUM G.S.	2500	12/30/91	12	2.8	2.8	4.8	STEVENS PASS SAND SD	3700	12/30/91	42	13.6	12.6	14.6
FISH LAKE PILLOW	3370	1/01/92	---	12.6S	13.4	12.4	SKAGIT RIVER						
LYMAN LAKE PILLOW	5900	1/01/92	---	28.8S	52.1	25.4	HARTS PASS PILLOW	6500	1/01/92	---	22.2S	41.6	17.9
MERRITT	2140	12/30/91	9	2.3	4.8	7.1	KLESILKWA CAN.	3710	1/05/92	13	6.7	--	--
STEVENS PASS PILLOW	4070	1/01/92	---	20.6S	20.9	15.3	LYMAN LAKE PILLOW	5900	1/01/92	---	28.8S	52.1	25.4
STEVENS PASS SAND SD	3700	12/30/91	42	13.6	12.6	14.6	RAINY PASS PILLOW	4780	1/01/92	---	21.3S	28.9	15.4
TROUGH #2 PILLOW	5310	1/01/92	---	2.6S	1.7	4.9	QUILCENE RIVER						
UPPER WHEELER PILLOW	4400	1/01/92	---	4.5S	4.4	5.9	MOUNT CRAG PILLOW	4050	1/01/92	---	4.9S	6.2	--
COLOCUM CREEK													
TRough #2 PILLOW	5310	1/01/92	---	2.6S	1.7	4.9							

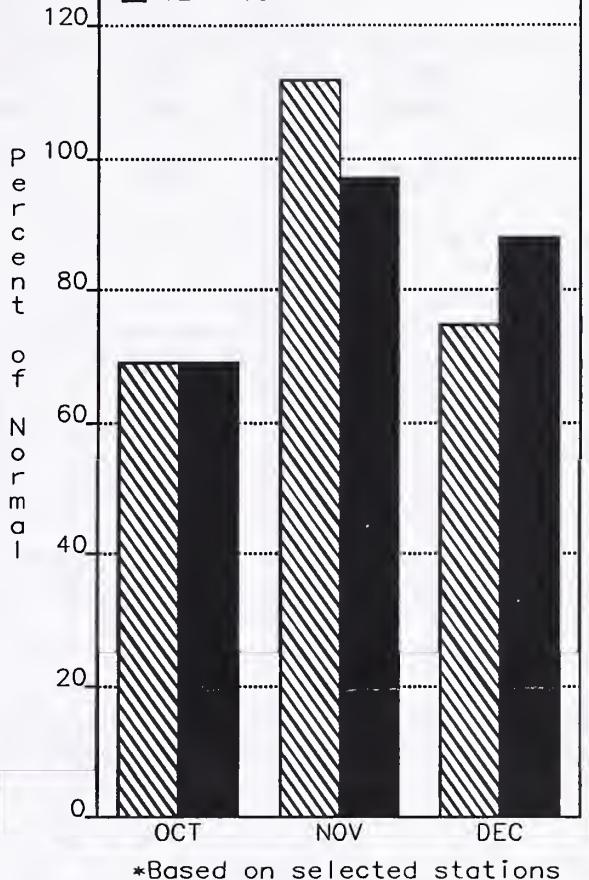
Mountain snowpack* (inches)
SPOKANE RIVER BASIN

----- CURRENT
 ······ AVERAGE
 - - - MAXIMUM
 - - - MINIMUM



Precipitation* (percent of normal)
SPOKANE RIVER BASIN

MONTHLY
YEAR TO DATE



*Based on selected stations

SPOKANE

The January 1 forecasts for summer runoff within the Spokane River Basin are 85% of normal. The forecast is based on a snowpack that is 103% of average and a water year-to-date precipitation value 88% of normal. Precipitation for December was 75% of average. Temperatures in the basin were 5 degrees above normal during December. Streamflow on the Spokane River was 56% of normal for December. January 1 storage in Coeur d'Alene Lake was 74,400 acre feet, 36% of normal.

SPOKANE RIVER BASIN
Streamflow Forecasts - January 1, 1992

Forecast Point	Forecast	<===== Drier ===== Future Conditions ===== Wetter =====>						
		Chance Of Exceeding *						
		Period	90%	70%	50% (Most Probable)	30%	10%	30-Yr Avg.
			(1000AF)	(1000AF)	(1000AF) (% AVG.)	(1000AF)	(1000AF)	(1000AF)
SPOKANE nr Post Falls (1,2)	APR-SEP	810	2080	2660	94	3240	4510	2820
	APR-JUL	785	2010	2570	94	3130	4360	2723
SPOKANE at Long Lake (2)	APR-JUL	890	2260	2870	94	3480	4850	3045

SPOKANE RIVER BASIN | SPOKANE RIVER BASIN
Reservoir Storage (1000 AF) - End of December | Watershed Snowpack Analysis - January 1, 1992

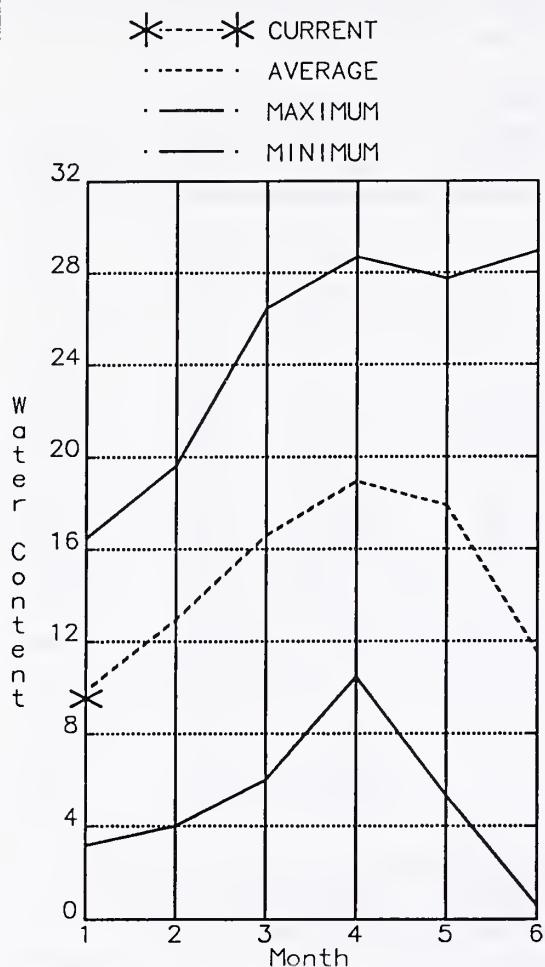
Reservoir	Capacity	Usable *** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average
		This Year	Last Year	Avg			
COEUR D'ALENE	291.2	74.4	167.2	207.7	Spokane River	6	88 103

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

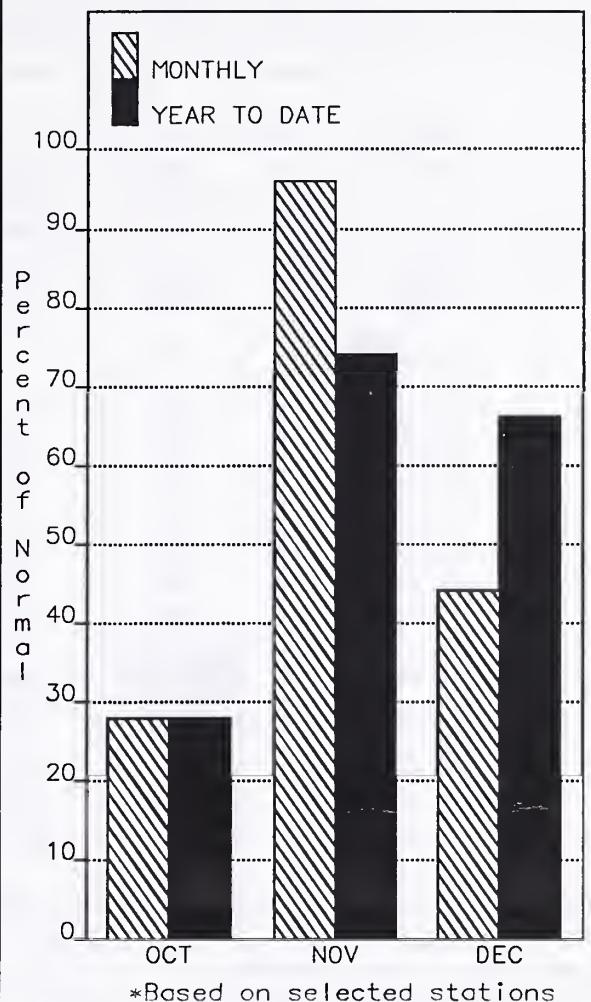
The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

Mountain snowpack* (inches)
COLVILLE - PEND OREILLE RIVER BASIN



Precipitation* (percent of normal)
COLVILLE - PEND OREILLE RIVER BASINS



COLVILLE - PEND OREILLE RIVER BASINS:

January 1 snow cover is 98% of average on the Pend Oreille and 96% on the Kettle. Snowpack at Bunchgrass Meadow SNOTEL site was 12.4 inches of water, the average January 1 reading is 14.7. Precipitation during December was 33% of average, bringing the water year-to-date to 64% of normal. December streamflow was 65% of normal on the Pend Oreille River, 84% on the Columbia at the International Boundary, and 56% on the Kettle River. The forecast for the Kettle River streamflow is 91% of normal, the Pend Oreille, 108%, and the Colville River, 83% of normal for the summer runoff period. Temperatures were three degrees above normal for December.

COLVILLE - PEND OREILLE RIVER BASINS
Streamflow Forecasts - January 1, 1992

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>						30-Yr Avg.	
		Chance Of Exceeding *							
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	% AVG. (%)	30% (1000AF)	10% (1000AF)		
PEND OREILLE bl Box Canyon (1,2)	APR-SEP	7820	11300	12900	88	14500	18000	14590	
	APR-JUL	7140	10300	11800	88	13300	16500	13380	
CHAMOKANE CK nr Long Lake	MAY-AUG	2.4	6.5	9.3	84	12.1	16.2	11.1	
COLVILLE at Kettle Falls	APR-SEP	52	91	117	84	143	182	140	
	APR-JUL	46	82	106	83	131	167	128	
	APR-JUN	41	74	96	81	118	151	118	
KETTLE nr Laurier	APR-SEP	990	1500	1840	96	2180	2690	1907	
	APR-JUL	945	1420	1750	97	2080	2560	1807	
	APR-JUN	845	1280	1570	97	1860	2290	1622	
COLUMBIA at Birchbank (1,2)	APR-SEP	30200	37400	40600	93	43800	51000	43810	
	APR-JUL	24300	30000	32600	93	35200	40900	35140	
COLUMBIA at Grand Coulee Dm (1,2)	APR-SEP	41100	53600	59300	89	65000	77500	66460	
	APR-JUL	34700	45100	49900	90	54700	65100	55730	
	APR-JUN	27000	35200	38900	90	42600	50800	43420	

COLVILLE - PEND OREILLE RIVER BASINS

Reservoir Storage (1000 AF) - End of December

COLVILLE - PEND OREILLE RIVER BASINS

Watershed Snowpack Analysis - January 1, 1992

Reservoir	Capacity	Usable *** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr	Average
		This Year	Last Year	Avg				
		Year	Year	Avg				
ROOSEVELT	5232.0	4629.4	4258.2	4547.9	Colville River	0	0	0
					Kettle River	4	76	95

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

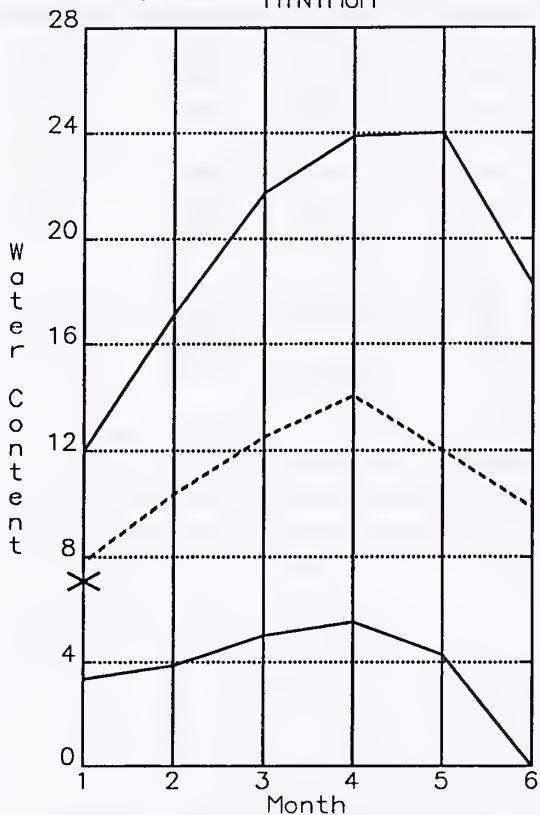
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

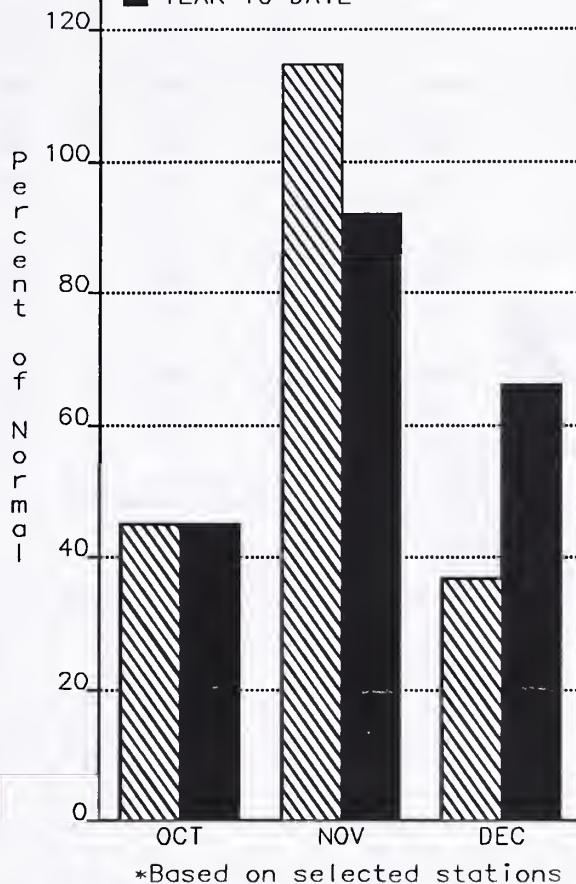
Mountain snowpack* (inches)
OKANOGAN - METHOW RIVER BASINS

----- CURRENT
----- AVERAGE
—·— MAXIMUM
—·— MINIMUM



Precipitation* (percent of normal)
OKANOGAN - METHOW RIVER BASINS

MONTHLY
YEAR TO DATE



*Based on selected stations

OKANOGAN - METHOW RIVER BASINS:

January 1 snow cover was 90% of average on the Okanogan, and 121% for the Methow Basin. December precipitation in the Okanogan-Methow was 37% of normal, with water year-to-date at 66% of average. December streamflow on the Methow River was 130% of normal, 176% on the Okanogan River, and 264% on the Similkameen. Snow water content at the Harts Pass SNOTEL, elevation 6500 feet, was 22.2 inches. Summer runoff forecast for the Okanogan River is 157% of normal; the Similkameen River, 161%, the highest in the state; and the Methow River, 120% of normal. Temperatures were six degrees above normal for the month. Storage in the Conconully Reservoirs is 15,200 acre feet, which is 65% of capacity and 113% of January 1 average.

OKANOGAN - METHOW RIVER BASINS
Streamflow Forecasts - January 1, 1992

Forecast Point	Forecast	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg.	
		Chance Of Exceeding *							
		Period	90%	70%	50% (Most Probable)	30%	10%		
			(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
SIMILKAMEEN nr Nighthawk (1)	APR-SEP	775	1170		1350	94	1530	1920	1432
	APR-JUL	740	1100		1260	95	1420	1780	1333
	APR-JUN	670	940		1060	94	1180	1450	1129
OKANOGAN RIVER nr Tonasket (1)	APR-SEP	755	1270		1500	90	1730	2240	1661
	APR-JUL	700	1150		1350	90	1550	2000	1501
	APR-JUN	635	975		1130	90	1280	1630	1256
METHOW RIVER nr Pateros (1)	APR-SEP	270	670		850	87	1030	1430	980
	APR-JUL	245	620		790	87	960	1330	907
	APR-JUN	215	530		670	87	810	1120	770

OKANOGAN - METHOW RIVER BASINS Reservoir Storage (1000 AF) - End of December	OKANOGAN - METHOW RIVER BASINS Watershed Snowpack Analysis - January 1, 1992
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Reservoir	Capacity	Usable *** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr	Average
		This Year	Last Year	Avg				
CONCONULLY LAKE (SALMON)	10.5	8.2	9.7	7.5	Okanogan River	13	62	90
CONCONULLY RESERVOIR	13.0	7.0	8.1	5.9	Methow River	2	59	121

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

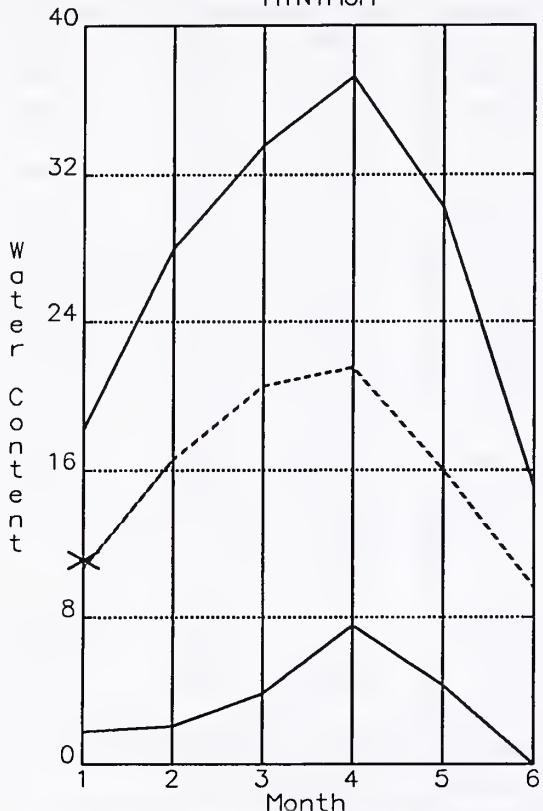
Mountain snowpack* (inches)
WENATCHEE - CHELAN RIVER BASINS

----- CURRENT

----- AVERAGE

— MAXIMUM

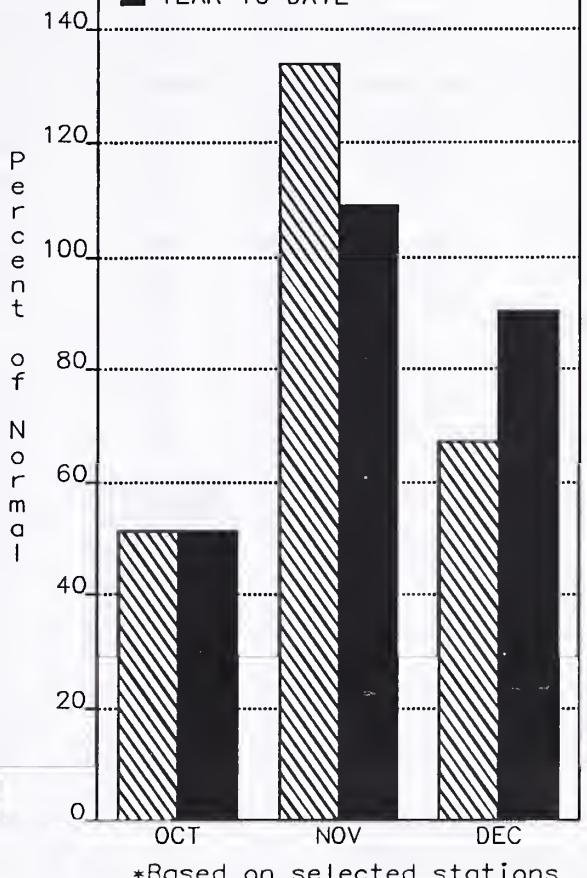
— MINIMUM



Precipitation* (percent of normal)
WENATCHEE - CHELAN RIVER BASINS

MONTHLY

YEAR TO DATE



*Based on selected stations

WENATCHEE - CHELAN RIVER BASINS:

January 1 snowpack in the Wenatchee Basin is 95% and the Chelan Basin 125%. Snowpack continues low along Colockum Ridge for the fourth consecutive year, with Stemilt Creek at 76%. Reservoir storage in Lake Chelan is 324,100 acre feet or 86% of January 1 average and 48% of capacity. Lyman Lake SNOTEL had the most snow water with 28.8 inches of water, this site would normally have 25.4 inches. Runoff for the Entiat River is forecast to be 95% of normal for the summer. Summer forecasts for the Chelan River are for 118%, Wenatchee River's runoff 109%, and 85% on the Squilchuck-Stemilt. Streamflow for December on the Chelan River was 125% of average and the Wenatchee River was 124% of normal. Precipitation during December was 67% of normal in the basin and 90% for the year-to-date.

WENATCHEE - CHELAN RIVER BASINS
Streamflow Forecasts - January 1, 1992

Forecast Point	Forecast	<<===== Drier ===== Future Conditions ===== Wetter =====>>						30-Yr Avg.	
		Chance Of Exceeding *							
		Period	90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	% AVG. (%)	30% (1000AF)	10% (1000AF)	
CHELAN RIVER at Chelan (1)	APR-SEP	720	1020	1160	98		1300	1600	1182
	APR-JUL	630	900	1020	98		1140	1410	1040
	APR-JUN	495	705	800	98		895	1100	815
STEHEKIN R. at Stehekin	APR-SEP	680	805	890	105		975	1100	844
	APR-JUL	575	680	750	105		820	925	714
	APR-JUN	435	515	570	105		625	705	541
ENTIAT RIVER nr Ardenvoir	APR-SEP	176	215	245	105		275	315	233
	APR-JUL	164	205	230	104		255	295	221
	APR-JUN	129	159	180	105		200	230	171
WENATCHEE R. at Peshastin	APR-SEP	1080	1440	1680	100		1920	2280	1678
	APR-JUL	980	1300	1520	100		1740	2060	1516
	APR-JUN	785	1040	1220	100		1400	1650	1216
STEMILT nr Wenatchee (miners in)	MAY-SEP	89	118	138	100		158	187	138
ICICLE CREEK nr Leavenworth	APR-SEP	230	305	360	97		415	490	370
	APR-JUL	210	280	330	97		380	450	340
	APR-JUN	164	220	260	96		300	355	270

WENATCHEE - CHELAN RIVER BASINS Reservoir Storage (1000 AF) - End of December	WENATCHEE - CHELAN RIVER BASINS Watershed Snowpack Analysis - January 1, 1992
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Reservoir	Capacity	Usable *** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
CHELAN LAKE	676.1	324.1	591.2	378.7	Chelan Lake Basin	3	68	125
					Entiat River	1	129	107
					Wenatchee River	8	78	96
					Squilchuck Creek	0	0	0
					Stemilt Creek	1	102	76
					Colockum Creek	1	153	53

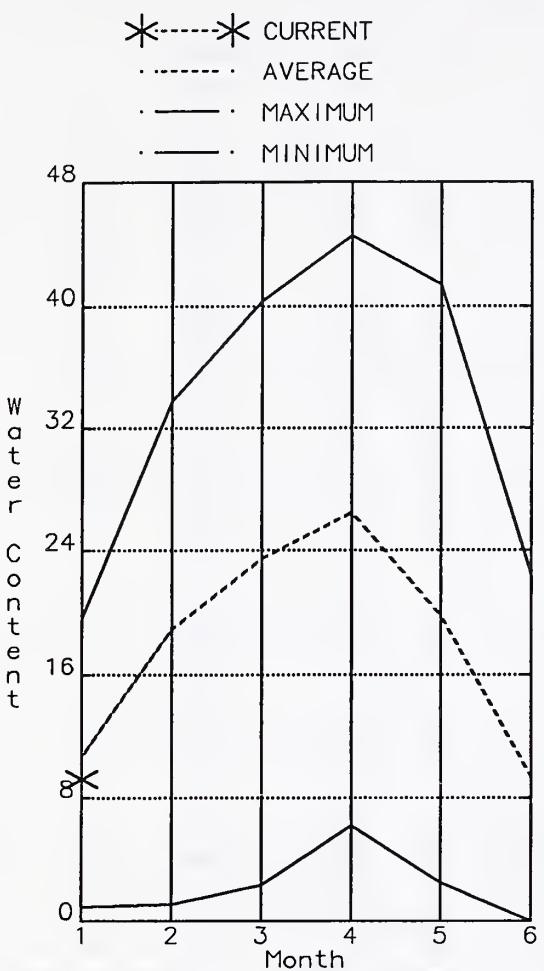
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The average is computed for the 1961-1990 base period.

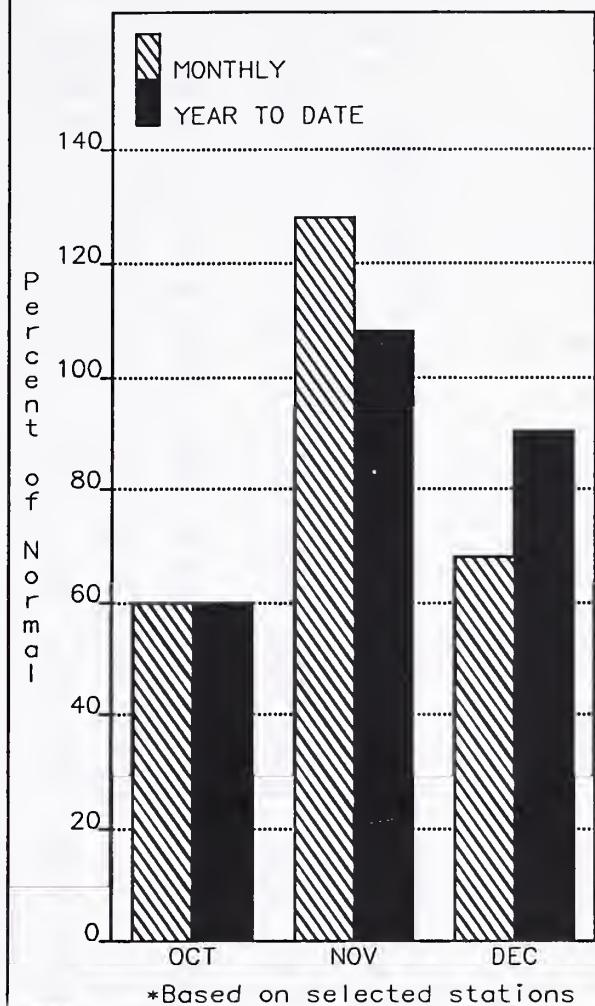
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Mountain snowpack* (inches)
YAKIMA RIVER BASIN



Precipitation* (percent of normal)
YAKIMA RIVER BASIN



YAKIMA RIVER BASIN:

December precipitation was 68% of normal and 90% for the water year-to-date. The outlook for irrigation water for the summer is good with January 1 reservoir storage for the five major reservoirs at 505,400 acre feet, 86% of average. January 1 snowpack is 86% based upon 16 snow courses and SNOTEL readings. January 1 summer streamflow forecasts for the Yakima Basin vary throughout the basin as follows: the Yakima River at Cle Elum, 78%; Naches River, 80%; the Yakima River at Parker, 78%; Ahtanum Creek, 77%, and Tieton River 79%. December streamflows were near normal with the Yakima River at Parker 97% of normal, 119% on the Yakima near Cle Elum, and 104% on the Naches River. Temperatures were five degrees above average for December. Volume forecasts for the Yakima Basin are for natural flow. As such, they may differ from the U. S. Bureau of Reclamation's forecast for the total water supply available which includes adjustments for reservoir operation and irrigation return flow.

YAKIMA RIVER BASIN
Streamflow Forecasts - January 1, 1992

Forecast Point	Forecast Period	<===== Drier ===== Future Conditions ===== Wetter =====>					
		Chance Of Exceeding *			30-Yr Avg.		
		90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	10% (1000AF)
YAKIMA RIVER at Martin (1)	APR-SEP	92	111	120	88	129	148
	APR-JUL	84	102	110	87	118	136
	APR-JUN	76	92	99	88	106	122
YAKIMA RIVER at Cle Elum (2)	APR-SEP	725	815	875	92	935	1030
	APR-JUL	645	725	780	92	835	915
	APR-JUN	560	630	675	92	720	790
YAKIMA RIVER nr Parker (2)	APR-SEP	1190	1560	1810	87	2060	2430
	APR-JUL	1070	1400	1620	87	1840	2170
	APR-JUN	940	1230	1430	87	1630	1920
KACHESS RIVER nr Easton (1)	APR-SEP	95	117	127	95	137	160
	APR-JUL	81	100	109	96	118	137
	APR-JUN	72	89	97	95	105	122
CLE ELUM RIVER nr Roslyn (1)	APR-SEP	385	455	485	106	515	585
	APR-JUL	350	410	440	106	470	530
	APR-JUN	295	345	370	105	395	445
BUMPING RIVER nr Niles (1)	APR-SEP	99	136	153	110	170	205
	APR-JUL	91	125	140	109	155	189
	APR-JUN	74	102	115	108	128	156
AMERICAN RIVER nr Niles	APR-SEP	81	102	117	97	132	153
	APR-JUL	75	95	108	96	122	141
	APR-JUN	63	80	91	97	102	119
TETON RIVER at Teton (1)	APR-SEP	121	186	215	88	245	310
	APR-JUL	108	163	188	90	215	270
	APR-JUN	86	131	151	90	171	215
NACHES RIVER nr Naches (2)	APR-SEP	505	665	775	90	885	1050
	APR-JUL	460	605	705	91	805	950
	APR-JUN	395	520	605	91	690	815
AHTANUM CREEK nr Tampico (2)	APR-SEP	32	45	53	113	62	74
	APR-JUL	29	40	48	112	56	67
	APR-JUN	25	34	41	111	48	58

YAKIMA RIVER BASIN Reservoir Storage (1000 AF) - End of December					YAKIMA RIVER BASIN Watershed Snowpack Analysis - January 1, 1992				
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average		
		This Year	Last Year	Avg			Last Yr	Average	
KEECHELUS	157.8	80.1	109.2	83.0	Yakima River	17	98	87	
KACHESS	239.0	129.5	178.8	159.1	Ahtanum Creek	2	106	74	
CLE ELUM	436.9	224.9	326.9	230.2					
BUMPING LAKE	33.7	6.6	11.1	6.3					
RIMROCK	198.0	64.3	121.1	102.1					

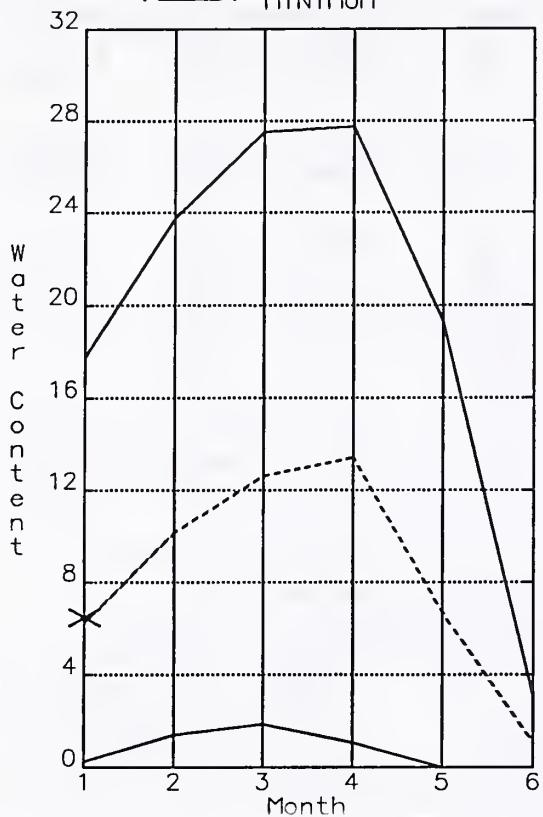
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The average is computed for the 1961-1990 base period.

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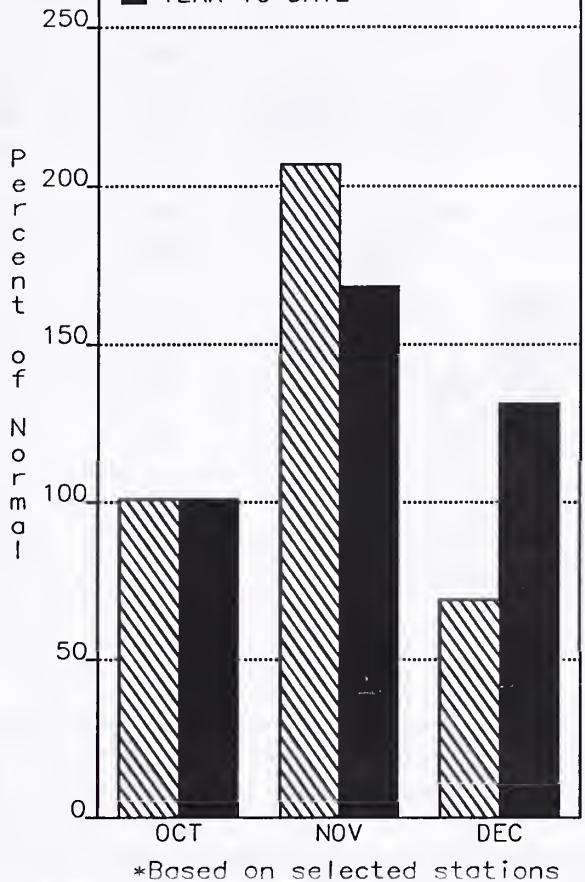
Mountain snowpack* (inches)
WALLA WALLA RIVER BASIN

----- CURRENT
· · · · AVERAGE
· — · MAXIMUM
· — · MINIMUM



Precipitation* (percent of normal)
WALLA WALLA RIVER BASIN

MONTHLY
YEAR TO DATE



*Based on selected stations

WALLA WALLA RIVER BASIN:

December streamflow was 89% of normal on the Walla Walla River, 49% for the Snake River, and 68% on the Grande Ronde River near Troy. January 1 snowpack is at 112%. December precipitation was 69% of average, bringing the water year-to-date precipitation to 131% of normal. The forecast is for 100% of average streamflow in the Walla Walla River for the coming summer, the Grande Ronde, 96%; Snake River, 95%, and 95% for Mill Creek. Temperatures were two degrees above average for December.

WALLA WALLA RIVER BASIN
Streamflow Forecasts - January 1, 1992

Forecast Point	Forecast	<===== Drier ===== Future Conditions ===== Wetter =====>							
		Chance Of Exceeding *							
		Period	90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	% AVG. (%)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
GRANDE RONDE at Troy (1)	MAR-JUL	555	1070	1300	86		1530	2040	1512
	APR-SEP	505	970	1180	86		1390	1850	1369
SNAKE bl Lower Granite Dam (1,2)	APR-JUL	6930	14400	17800	78		21200	28700	22760
	APR-SEP	7780	16200	20000	78		23800	32200	25578
MILL CREEK at Walla Walla	APR-SEP	4.9	10.7	14.7	83		18.7	25	17.7
	APR-JUL	4.9	10.7	14.7	84		18.7	25	17.6
	APR-JUN	4.7	10.5	14.4	83		18.3	24	17.3
SF WALLA WALLA nr Milton Freewater	APR-JUL	44	50	55	100		60	66	55
COLUMBIA R. at The Dalles (2)	APR-SEP	83500	85500	86500	85		87500	89500	101800
	APR-JUL	49000	64000	74100	85		84200	99200	87100
	APR-JUN	39700	51800	60000	85		68200	80300	70470

WALLA WALLA RIVER BASIN

Reservoir Storage (1000 AF) - End of December

WALLA WALLA RIVER BASIN

Watershed Snowpack Analysis - January 1, 1992

Reservoir	Capacity	Usable *** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr	Average
		This	Last					
		Year	Year	Avg				
					Mill Creek	1	158	112

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

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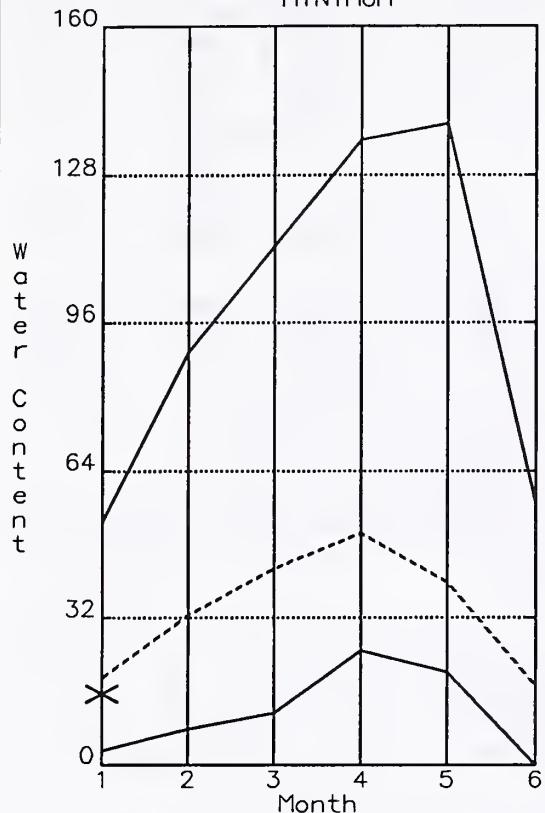
Mountain snowpack* (inches)
COWLITZ - LEWIS RIVER BASINS

----- CURRENT

----- AVERAGE

— MAXIMUM

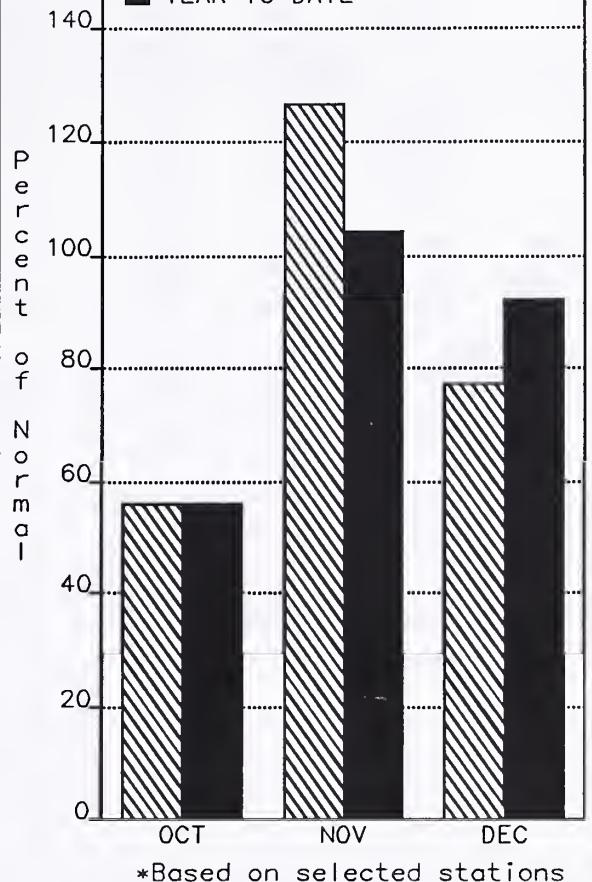
— MINIMUM



Precipitation* (percent of normal)
COWLITZ - LEWIS RIVER BASINS

MONTHLY

YEAR TO DATE



*Based on selected stations

COWLITZ - LEWIS RIVER BASINS:

December precipitation was 77% of normal, bringing the water year-to-date precipitation to 92% of average. January 1 snow cover for the Cowlitz-Lewis River Basin is 81%. The Paradise Park SNOTEL contained the maximum water content for the basin with 29.3 inches of water, normal January 1 water content is 28.9 inches. Forecasts for summer runoff in the Lewis River are 85%, and for the Cowlitz River, 102%. December streamflow on the Cowlitz River was 139% of average, and 143% on the Lewis River. Temperatures were two degrees above normal for December.

COWLITZ - LEWIS RIVER BASINS
Streamflow Forecasts - January 1, 1992

Forecast Point	Forecast	<<===== Drier ===== Future Conditions ===== Wetter =====>>						
		Chance Of Exceeding *						
		Period	90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	
LEWIS RIVER at Ariel (2)	APR-SEP	640	950	1160	93	1370	1680	1244
	APR-JUL	560	825	1010	93	1190	1460	1084
	APR-JUN	520	760	920	96	1080	1320	958
COWLITZ R. bl Mayfield Dam (2)	APR-SEP	960	1500	1870	92	2240	2780	2036
	APR-JUL	845	1320	1640	92	1960	2440	1782
	APR-JUN	770	1170	1450	95	1730	2130	1524
COWLITZ R. at Castle Rock (2)	APR-SEP	1860	2260	2530	94	2800	3200	2687
	APR-JUL	1620	1960	2200	94	2440	2780	2343
	APR-JUN	1410	1710	1910	95	2110	2410	2015

COWLITZ - LEWIS RIVER BASINS
Reservoir Storage (1000 AF) - End of December

COWLITZ - LEWIS RIVER BASINS
Watershed Snowpack Analysis - January 1, 1992

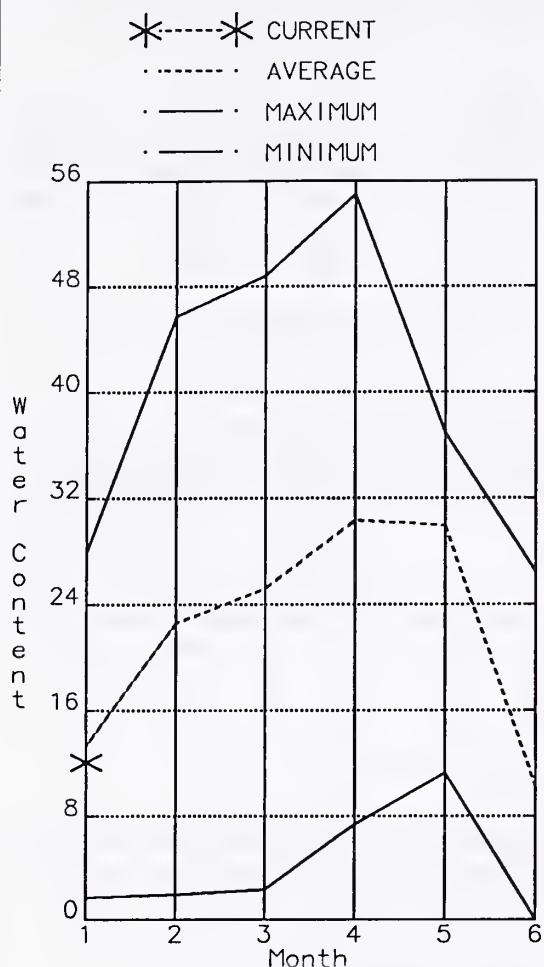
Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average	
		This Year	Last Year	Avg				
					Cowlitz River	6	73	93
					Lewis River	4	56	62

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

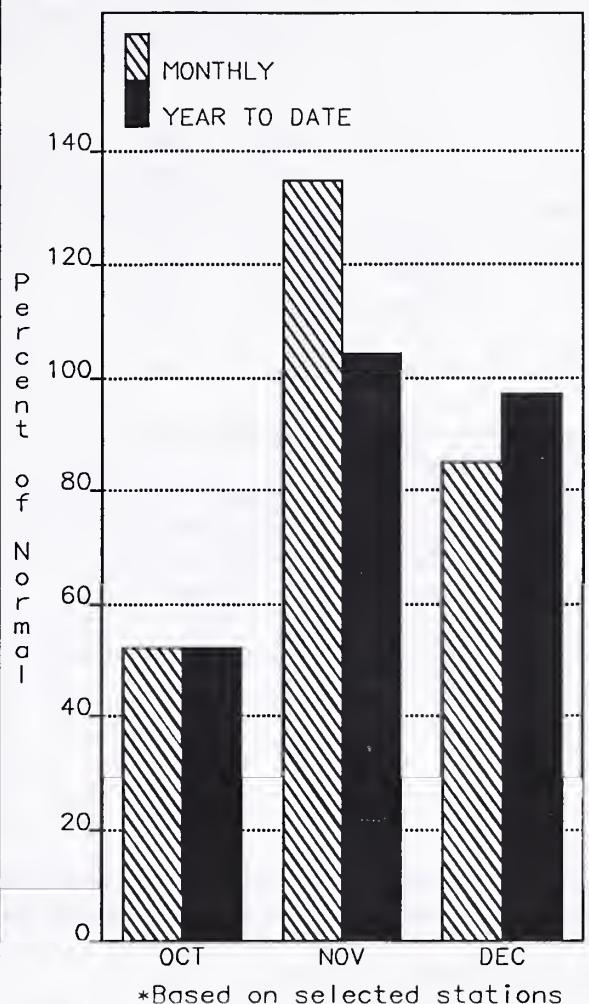
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Mountain snowpack* (inches)
WHITE - GREEN RIVER BASINS



Precipitation* (percent of normal)
WHITE - GREEN RIVER BASINS



WHITE - GREEN RIVER BASINS:

January 1 snowpack was 101% of normal on the White River and 80% in the Green Basin. Water content on January 1 at the Stampede Pass SNOTEL, at an elevation of 3860 feet, was 17.1 inches, this site has a January 1 average of 16.7 inches. December precipitation was 85% of normal, bringing the water year-to-date to 97% of average. Summer runoff is forecasted to be 89% on the Green River and on the Cedar River. Temperatures were five degrees above average for December.

WHITE - GREEN RIVER BASINS
Streamflow Forecasts - January 1, 1992

Forecast Point	Forecast	<<===== Drier ===== Future Conditions ===== Wetter =====>>							
		Chance Of Exceeding *							
		Period	90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	% AVG. (%)	30% (1000AF)	10% (1000AF)	30-Yr Avg. (1000AF)
GREEN R bl Howard Hanson Dam (2)	APR-SEP	154	215	255	88		295	355	291
	APR-JUL	139	193	230	88		265	320	261
	APR-JUN	128	177	210	89		245	290	236
CEDAR RIVER nr Cedar Falls	APR-SEP	47	66	79	85		92	111	93
.									

WHITE - GREEN RIVER BASINS
Reservoir Storage (1000 AF) - End of December | WHITE - GREEN RIVER BASINS
Watershed Snowpack Analysis - January 1, 1992

Reservoir	Capacity	Usable *** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This	Last	Avg			White River	110
		Year	Year	Avg			Green River	80
					White River	2	107	110
					Green River	7	74	80
					Cedar River	0	0	0

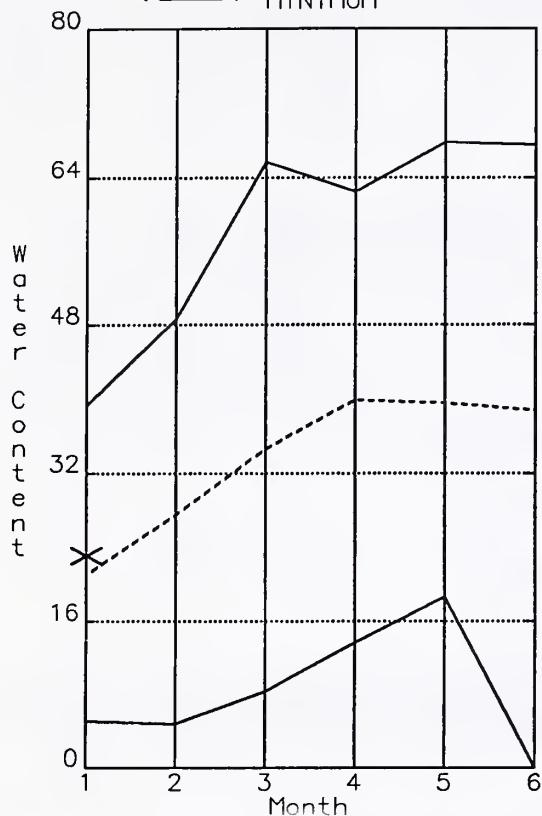
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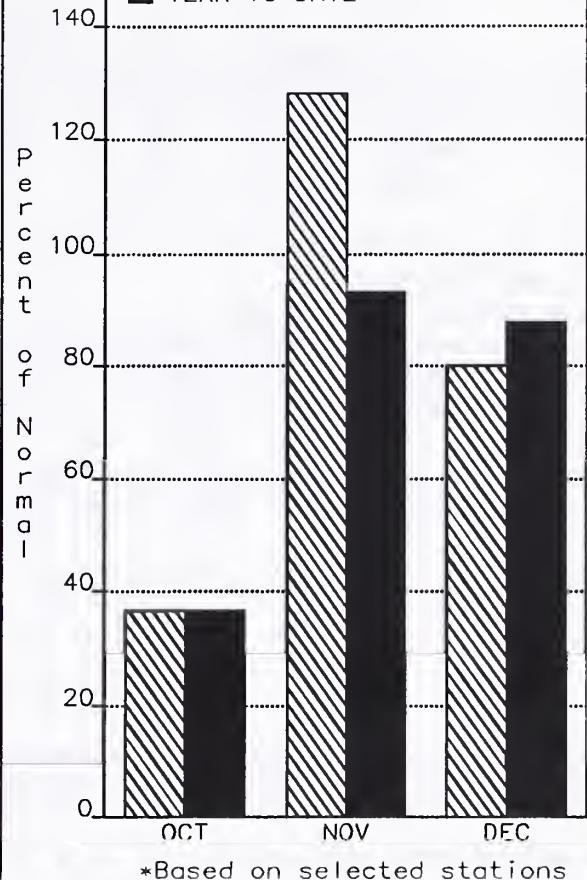
Mountain snowpack* (inches)
NORTH PUGET SOUND RIVER BASINS

----- CURRENT
..... AVERAGE
- - - MAXIMUM
- - - MINIMUM



Precipitation* (percent of normal)
NORTH PUGET SOUND RIVER BASINS

MONTHLY
YEAR TO DATE



*Based on selected stations

NORTH PUGET SOUND RIVER BASINS:

December streamflow in the Skagit River was 82% of average. Forecast for the Skagit River streamflow is 96% of normal for the spring and summer period. January 1 snow cover in the Skagit Basin is 123% of normal. Rainy Pass SNOTEL at elevation 4780 feet, has 21.3 inches of water content; normal January 1 water content is 15.4 inches. January 1 reservoir storage is above average, with Ross Lake reservoir at 143% of normal and 83% of capacity. Precipitation for December was 80% of average with a water year-to-date at 88% of normal. December temperatures were five degrees above normal.

NORTH PUGET SOUND RIVER BASINS
Streamflow Forecasts - January 1, 1992

Forecast Point	Forecast	<<===== Drier ===== Future Conditions ===== Wetter =====>>						
		Chance Of Exceeding *						
		Period	90% (1000AF)	70% (1000AF)	50% (Most Probable) (1000AF)	(% AVG.)	30% (1000AF)	
SKAGIT RIVER at Newhalem (2)	APR-SEP	1560	1900	2140	95	2380	2720	2264
	APR-JUL	1330	1620	1820	96	2020	2310	1891
	APR-JUN	1030	1250	1400	97	1550	1770	1442

NORTH PUGET SOUND RIVER BASINS
Reservoir Storage (1000 AF) - End of December

NORTH PUGET SOUND RIVER BASINS
Watershed Snowpack Analysis - January 1, 1992

Reservoir	Usable Capacity	*** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of	
		This Year	Last Year	Avg			Last Yr	Average
ROSS	1404.1	1161.5	1260.9	783.9	Snoqualmie River	1	80	79
DIABLO RESERVOIR	90.6	87.1	82.2	---	Skykomish River	3	99	110
GORGE RESERVOIR	9.8	7.9	7.5	---	Skagit River	3	59	123
					Baker River	0	0	0

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

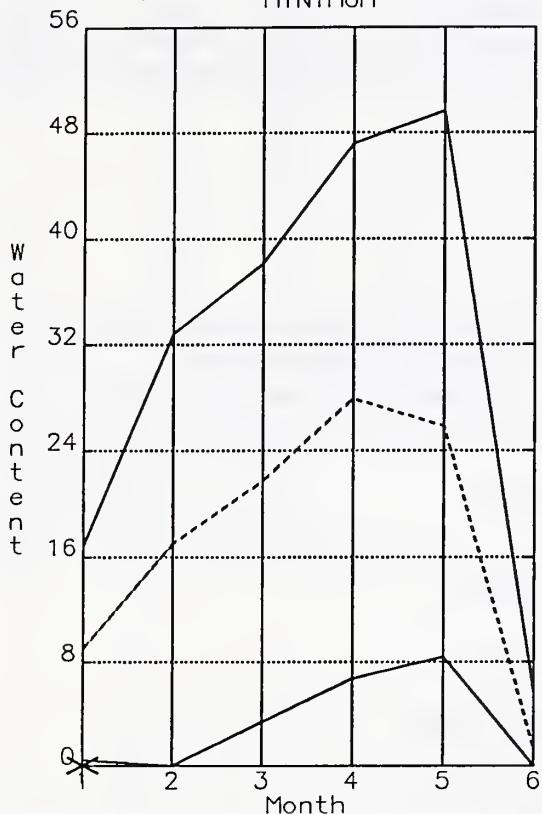
The average is computed for the 1961-1990 base period.

(1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.

(2) - The value is natural flow - actual flow may be affected by upstream water management.

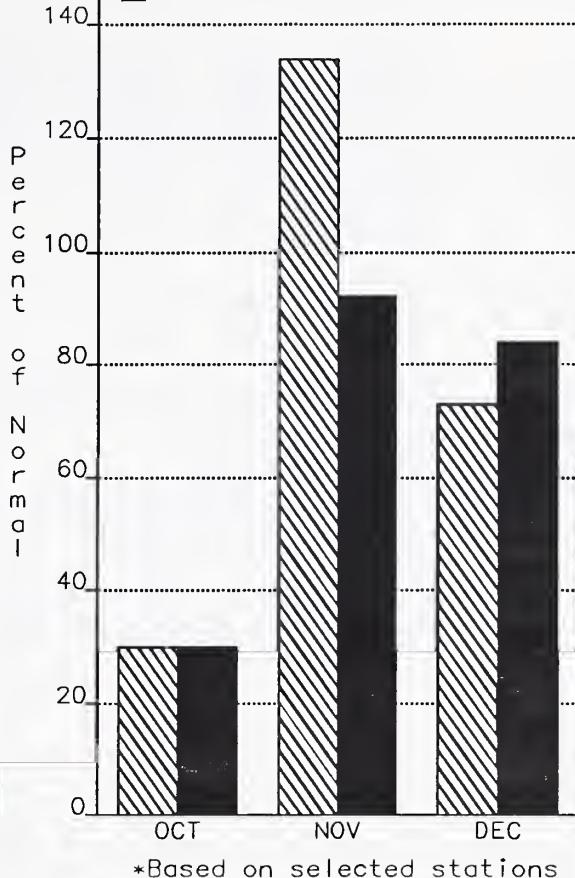
Mountain snowpack* (inches)
OLYMPIC PENINSULA RIVER BASINS

----- CURRENT
----- AVERAGE
- - - MAXIMUM
- - - MINIMUM



Precipitation* (percent of normal)
OLYMPIC PENINSULA RIVER BASINS

MONTHLY
YEAR TO DATE



*Based on selected stations

OLYMPIC PENINSULA RIVER BASINS:

December precipitation was 73% of average, with water year-to-date precipitation accumulation at 84% of normal. January 1 snow cover in the Olympic basin is below normal based on data from the Mount Crag SNOTEL. January forecasts of runoff for streamflow in the basin are for 90% of average on the Dungeness River and the Elwha River. The Big Quilcene can expect below normal runoff this summer. The Mount Crag SNOTEL near Quilcene had 4.2 inches on January 1, last year it had 6.2 inches. Temperatures were three degrees above normal for December.

OLYMPIC PENINSULA RIVER BASINS
Streamflow Forecasts - January 1, 1992

Forecast Point	Forecast	Future Conditions						30-Yr Avg.	
		<<===== Drier =====>>		Chance Of Exceeding *		Wetter =====>			
		Period	90%	70%	50% (Most Probable)	30%	10%		
			(1000AF)	(1000AF)	(1000AF)	(% AVG.)	(1000AF)	(1000AF)	
DUNGENESS RIVER nr Sequim	APR-SEP	107	126	139	87	152	171	159	
	APR-JUL	97	113	123	95	133	149	129	
	APR-JUN	74	85	93	96	101	112	97	
ELWHA RIVER nr Port Angeles	APR-SEP	390	455	500	90	545	610	553	
	APR-JUL	325	380	415	91	450	505	454	

OLYMPIC PENINSULA RIVER BASINS Reservoir Storage (1000 AF) - End of December	OLYMPIC PENINSULA RIVER BASINS Watershed Snowpack Analysis - January 1, 1992
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Reservoir	Capacity	Usable *** Usable Storage ***			Watershed	Number of Data Sites	This Year as % of Last Yr Average
		This Year	Last Year	Avg			
					Elwha River	0	0
					Morse Creek	0	0
					Dungeness River	0	0
					Quilcene River	0	0
					Wynoochee River	0	0

* 90%, 70%, 30%, and 10% chances of exceeding are the probabilities that the actual flow will exceed the volumes in the table.

The average is computed for the 1961-1990 base period.

- (1) - The values listed under the 10% and 90% Chance of Exceeding are actually 5% and 95% exceedance levels.
- (2) - The value is natural flow - actual flow may be affected by upstream water management.

